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Project	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	BC	Proposed Use	BC
Sample Location	At plant	Date of Sampling	10-04-2019
		Date of Testing	10-04-2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63	50	0	0	0	0
50	40	0	0	0	0
40	31.5	0	0	0	0
31.5	25	0	0	0	0
25	20	0	0	0	0
20	16	945	110	835	75
16	12.5	1125	80	1045	125
12.5	10	680	75	605	55
10	6.3	585	70	515	50
Total		3335	335	3000	305

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.04
Elongation Index(%):	10.17
Combined FI+EL (%)	20.21

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Name of Work	:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	10-04-2019
Type of Mix	:	BC
Sample ID	:	BC1

GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Sample Location:	At plant	Date of Sampling:	10-04-2019
		Date of testing:	10-04-2019
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19	0	0	0.00	100.00	100.00
13.20	90	90.0	7.50	92.50	79 - 100
9.50	122	208.0	17.33	82.67	71 - 95
4.75	240	440.0	36.67	63.33	53 - 71
2.360	185	625.0	52.08	47.92	42 - 58
1.180	105	730.0	60.83	39.17	34 - 48
0.600	115	845.0	70.42	29.58	26 - 38
0.300	95	940.0	78.33	21.67	18 - 28
0.150	70	980.0	81.67	18.33	12 - 20
0.075	118	1098.0	91.50	8.50	4 - 10
Pan	102.0	1200.0			
Total	1200.0				

Consultant's Representative

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

TEJUS CONSULTANTS

Name of Work	:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	10-04-2019
Type of Mix	:	BC
Sample I/D	:	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
I. Weight of Mixture before extraction, g	922	915
II. Weight of Mixture after extraction, g	875	861
III. Weight of Bitumen	47	54
IV. Weight of filter paper before extraction, g	2.00	2.15
V. Weight of filter paper after extraction, g	4.10	4.00
VI. Weight of fines, g	2.10	1.85
VII. Weight of Bitumen & fines	49.10	55.85
VIII. Bitumen content in %	5.33	6.10
IX. Average Bitumen content in %	**5.71**	
X. Minimum Bitumen content in %	**5.80**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site		Date of Sampling:	10-04-2019	
			Date of testing:	10-04-2019	
Type of material & Purpose:	BC		Oven Dry Wt.(gms):	875.0	
IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	92	92.0	10.51	89.49	79 - 100
9.50	141	208.0	23.77	76.23	71 - 95
4.75	93	293.0	33.49	66.51	53 - 71
2.360	145	435.0	49.71	50.29	42 - 58
1.180	130	532.0	60.80	39.20	34 - 48
0.600	85	617.0	70.51	29.49	26 - 38
0.300	70	687.0	78.51	21.49	18 - 28
0.150	50	737.0	84.23	15.77	12 - 20
0.075	70	807.0	92.23	7.77	4 - 10
Pan	68.0	875.0			
Total	875.0				

Consultant's Representative

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Name of Work	:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	10-04-2019
Type of Mix	:	Tack coat
Sample I/D	:	1

DETERMINATION OF RATE OF SPREAD TACK COAT

Determination	Unit	Test No	
		1	2
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.090	0.090
Initial Wt of empty Plate (b)	Kg	0.758	0.755
Final weight of plate after application of tack Coat (c)	Kg	0.781	0.778
Weight of tack Coat (d=c-b)	Kg	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.256	0.256
Average	Kg/sq.m	0.256	
Specified Limit	Kg/sq.m	**0.250 to 0.30 Kg/sq.m**	

Consultant's Representative

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Project:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		BC		**Proposed Use**	BC
Sample Location		At plant		**Date of Sampling**	10-04-2019
				Date of Testing	10-04-2019
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63	50	0	0	0	0
50	40	0	0	0	0
40	31.5	0	0	0	0
31.5	25	0	0	0	0
25	20	0	0	0	0
20	16	945	110	835	75
16	12.5	1125	80	1045	125
12.5	10	680	75	605	55
10	6.3	585	70	515	50
Total		3335	335	3000	305

Note: Minimum 200 Pcs should be taken on each fraction of test

	Flakiness Index(%):	10.04
	Elongation Index(%):	10.17
	Combined FI+EL (%)	20.21

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Project:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material:	BC	Proposed Use	BC
Sample Location:	At plant	Date of Sampling	10-04-2019
		Date of Testing	10-04-2019

Size of aggregate:		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63	50	0	0	0	0
50	40	0	0	0	0
40	31.5	0	0	0	0
31.5	25	0	0	0	0
25	20	0	0	0	0
20	16	946	113	833	78
16	12.5	1130	80	1050	122
12.5	10	682	78	604	50
10	6.3	580	66	514	51
Total		3338	337	3001	301

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.10
Elongation Index(%):	10.03
Combined FI+EL (%)	20.13

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Name	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	BC	**Date of Sampling**	**10-04-2019**
Sample Location	At plant	**Date of Testing**	**10-04-2019**

Sl No	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	398.00	394.00	380.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	302.00	295.00	290.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	96.00	99.00	90.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.12	25.13	23.68	
5	Average Aggregate impact value	(%)	24.31			Max - 30 %

Remarks: Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

TEJUS CONSULTANTS

Name of Work	:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	11-04-2019
Type of Mix	:	BC
Sample I/D	:	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	928	912
2. Weight of Mixture after extraction, g	878	859
3. Weight of Bitumen	50	53
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	52.10	54.85
8. Bitumen content in %	5.61	6.01
9. Average Bitumen content in %	**5.81**	
10. Minimum Bitumen content in %	**5.80**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site		Date of Sampling:	11-04-2019	
			Date of testing:	11-04-2019	
Type of material & Purpose:	BC		Oven Dry Wt.(gms):	878.0	
IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	88	88.0	10.02	89.98	79 - 100
9.50	140	208.0	23.69	76.31	71 - 95
4.75	90	293.0	33.37	66.63	53 - 71
2.360	150	435.0	49.54	50.46	42 - 58
1.180	125	532.0	60.59	39.41	34 - 48
0.600	85	617.0	70.27	29.73	26 - 38
0.300	71	688.0	78.36	21.64	18 - 28
0.150	45	733.0	83.49	16.51	12 - 20
0.075	91	824.0	93.85	6.15	4 - 10
Pan	54.0	878.0			
Total	878.0				

Consultant's Representative

TEJUS CONSULTANTS

No. 55, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O : +91 80 23287532, tejusconsultants@gmail.com

TEJUS
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Name:	Improvements to Roads and Drains Thirumenahalli And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use:	BC	**Date of Sampling**	**11-04-2019**
Sample Location:	At plant	**Date of Testing**	**11-04-2019**

Sl No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	396.00	392.00	398.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	304.00	300.00	308.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	92.00	92.00	90.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.23	23.47	22.61	
5	Average Aggregate impact value	(%)	23.10			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

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Project:	Improvements to roads and drains in Agarahara, Agarahara Layout and Surrounding area in Ward No. 05
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use:	BC	**Date of Sampling**	**12-04-2019**
Sample Location:	At plant	**Date of Testing**	**12-04-2019**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	396.00	392.00	398.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	304.00	300.00	308.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	92.00	92.00	90.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.23	23.47	22.61	
5	Average Aggregate impact value	(%)	23.10			Max - 30 %

Remarks: ✓ Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

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Project	Improvements to Roads and Drains in Agrahara, Agrahara Layout And Surrounding Area in Ward no 5.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	BC	Proposed Use	BC
Sample Location	At plant	Date of Sampling	12-04-2019
		Date of Testing	12-04-2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63	50	0	0	0	0
50	40	0	0	0	0
40	31.5	0	0	0	0
31.5	25	0	0	0	0
25	20	0	0	0	0
20	16	946	113	833	78
16	12.5	1130	80	1050	122
12.5	10	682	78	604	50
10	6.3	580	66	514	51
Total		**3338**	**337**	**3001**	**301**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.10
Elongation Index(%):	10.03
Combined FI+EL (%)	20.13

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Name of Work	:	Improvements to Roads and Drains in Agrahara, Agrahara Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	12-04-2019
Type of Mix	:	BC
Sample ID	:	BC2

GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Sample Location:	At plant	Date of Sampling:	12-04-2019
		Date of testing:	12-04-2019
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	125	120.0	10.00	90.00	79 - 100
9.50	80	198.0	16.50	83.50	71 - 95
4.75	220	418.0	34.83	65.17	53 - 71
2.360	150	568.0	47.33	52.67	42 - 58
1.180	135	703.0	58.58	41.42	34 - 48
0.600	120	825.0	68.75	31.25	26 - 38
0.300	90	915.0	76.25	23.75	18 - 28
0.150	75	990.0	82.50	17.50	12 - 20
0.075	115	1105.0	92.08	7.92	4 - 10
Pan	95.0	1200.0			
Total	1200.0				

Consultant's Representative

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

TEJUS CONSULTANTS

Name of Work	:	Improvements to Roads and Drains in Agrahara, Agrahara Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	12-04-2019
Type of Mix	:	BC
Sample ID	:	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	922	915
2. Weight of Mixture after extraction, g	875	861
3. Weight of Bitumen	47	54
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	49.10	55.85
8. Bitumen content in %	5.33	6.10
9. Average Bitumen content in %	**5.71**	
10. Minimum Bitumen content in %	**5.80**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	12-04-2019	
		Date of testing:	12-04-2019	
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	875.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	92	92.0	10.51	89.49	79 - 100
9.50	141	208.0	23.77	76.23	71 - 95
4.75	93	293.0	33.49	66.51	53 - 71
2.360	145	435.0	49.71	50.29	42 - 58
1.180	130	532.0	60.80	39.20	34 - 48
0.600	85	617.0	70.51	29.49	26 - 38
0.300	70	687.0	78.51	21.49	18 - 28
0.150	50	737.0	84.23	15.77	12 - 20
0.075	90	827.0	94.51	5.49	4 - 10
Pan	48.0	875.0			
Total	875.0				

Consultant's Representative

TEJUS CONSULTANTS

Name of Work	:	Improvements to Roads and Drains in Agrahara, Agrahara Layout And Surrounding Area in Ward no 5.	
Client	:	Bruhat Bengaluru Mahanagara Palike	
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)	
Date of Testing	:	12-04-2019	
Type of Mix	:	Tack coat	
Sample I/D	:	1	

DETERMINATION OF RATE OF SPREAD TACK COAT

Determination	Unit	Test No	
		1	2
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.823	0.865
Final weight of plate after application of tack Coat (c)	Kg	0.846	0.888
Weight of tack Coat (d=c-b)	Kg	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.256	0.256
Average	Kg/sq.m	0.256	
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**	

Consultant's Representative

TEJUS
CONSULTANTS

Test Report on Compressive Strength of Concrete Cubes

Project:	Construction of Govt. School Rooms, Palanahalli and Kattigehalli Village in Ward No.05 (Palanahalli)
Client:	Bruhat Bangalore Mahanagar Palike
Consultant:	TEJUS CONSULTANTS
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Location:	Cement
Grade of concrete:	M25
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	15-03-2019	12-04-2019	28 days	8.583	22500	564	25.07	25.16
2	15-03-2019	12-04-2019	28 days	8.662	22500	568	25.24	
3	15-03-2019	12-04-2019	28 days	8.563	22500	566	25.16	

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